1R - 426-279

WORKPLANS

Date:
3-19-12

Rice Environmental Consulting & Safety
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

CERTIFIED MAIL
RETURN RECEIPT NO. 7011 2000 0002 0285 5094

March 19th, 2012

Mr. Edward Hansen
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: **Report of Further Investigation**
Rice Operating Company – BD SWD System
BD jct. C-23-1 (1R426-279): UL/C sec. 23 T22S R37E

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the BD SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Background and Previous Work

The site is located approximately 4 miles southeast of Eunice, New Mexico at UL/C sec. 23 T22S R37E as shown on the Site Location Map (Figure 1). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 59 +/- feet.

In 2010, ROC initiated work on the former BD C-23-1 junction box. The site was delineated using a backhoe to form a 35 ft x 5 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite, the bottom composite and the backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 784 mg/kg and gasoline range organics (GRO) and diesel range organics (DRO) readings of non-detect. The bottom composite showed a chloride laboratory reading of 2,200 mg/kg and GRO and DRO readings of non-detect. The soil was blended on site and backfilled to six feet below ground surface (bgs). Laboratory analysis of the blended backfill showed a chloride reading of 1,310 mg/kg and GRO and DRO readings of non-detect. At 6-5 ft bgs, a one foot thick clay layer was installed to inhibit the downward movement of chlorides. A clay compaction test was performed on

March 23rd, 2010. The remaining backfill was taken to an NMOCD approved facility for disposal. Clean imported soil was used to backfill the site to ground surface.

The area was contoured to the surrounding landscape, seeded, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. NMOCD was notified of potential groundwater impact on August 4th, 2010 and a junction box disclosure report was submitted to NMOCD with all the 2010 junction box closures and disclosures.

As part of the Investigation and Characterization Plan approved by NMOCD on July 20th, 2011, one soil bore was advanced through the former junction box site on September 2nd, 2011 (Figure 2). RECS personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID) for hydrocarbons. Representative samples from the bore were taken to a commercial laboratory for confirmation of field numbers (Appendix A). In SB-1, the laboratory chloride readings showed 1,250 mg/kg at 20 ft bgs, 1,630 mg/kg at 50 ft bgs and 4,800 mg/kg at 55 ft bgs.

On September 15th, 2011, an ICP Report was submitted to NMOCD that was subsequently approved on September 22nd, 2011. The report recommended that ROC continue to delineate the soils surrounding the former junction box site and the groundwater affected by the site by installing a near-source monitor well. On February 1st and 2nd, 2012, six additional soil bores (SB-2 through SB-7) were installed at the site (Figure 2). Representative samples from the bores were taken to a commercial laboratory for confirmation of field numbers (Appendix A). SB-2 returned laboratory chloride values of 960 mg/kg at 10 ft bgs, which decreased to 112 mg/kg at 40 ft bgs. SB-3 returned laboratory chloride values of 3,760 mg/kg at 20 ft bgs, which decrease to 1,730 mg/kg at 55 ft bgs. SB-4 returned laboratory chloride values of 1,540 mg/kg at 20 ft bgs, 1,580 mg/kg at 50 ft bgs, and 3,120 mg/kg at 55 ft bgs. SB-5 returned laboratory chloride values of 3,360 mg/kg at 45 ft bgs and 3,760 mg/kg at 55 ft bgs. SB-6 returned laboratory chloride values of 4,080 mg/kg, which decreased to 3,240 mg/kg at 55 ft bgs. SB-7 returned laboratory chloride values of 3,360 mg/kg at 10 ft bgs and 3,960 mg/kg at 55 ft bgs. GRO and DRO values were non detect in soil bores except for SB-6 which had DRO values of 28.9 mg/kg at 45 ft bgs and 13 mg/kg at 55 ft bgs.

Based on the delineation of the soils conducted at the site, RECS recommends that ROC continue to delineate the soils surrounding the former junction box and install a near-source monitor well to determine groundwater quality below the site. Additional monitor wells may be installed as necessary to fully delineate groundwater quality. After delineation of the soils surrounding the junction box and groundwater beneath the site, ROC will submit a report with recommendations for a path forward.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

Figure 1 – Site Map
Figure 2 – Soil Bore Installation Map
Appendix A – Soil Bore Installation Logs and Labs

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Site Map

RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

BD jct. C-23-1

LEGALS: UL/C sec. 23
T22S R37E

NMOCD Case #: 1R426-279

Figure 1

N
W E
S

0 1,700 3,400 6,800
Feet

Drawing date: 5-3-11
Drafted by: L. Weinheimer

Soil Bore Installation

SB-1

Depth	Cl-	PID	LAB Cl-	GRO	DRO
15	628	5			
20	1103	8.5	1250	<10	<10
25	619	5.2			
30	343	5.5			
35	382	4.8			
40	322	4.8			
45	409	4.3			
50	1166	4.3	1630	<10	<10
55	2886	3.3	4800	<10	<10

SB-2

Depth	Cl-	PID	LAB Cl-	GRO	DRO
SS	250	1.4			
5	334	1.7			
10	1059	1.1	960	<10	<10
15	915	1.1			
20	903	1			
25	640	1.1			
30	193	1.5			
35	149	0.7			
40	140	0.9	112	<10	<10

SB-3

Depth	Cl-	PID	LAB Cl-	GRO	DRO
SS	113	1.6			
5	138	0.7			
10	236	1			
15	1245	1.5			
20	2708	1.3	3760	<10	<10
25	358	1.4			
30	269	1.7			
35	295	1.5			
40	213	1.6			
45	721	1.6			
50	2062	1.4			
55	3010	2	1730	<10	<10

SB-5

Depth	Cl-	PID	LAB Cl-	GRO	DRO
SS	112	2.6			
5	153	3.7			
10	204	3.1			
15	1136	4.2			
20	923	4.3			
25	815	3.2			
30	345	4.2			
35	352	3.5			
40	1276	4.4			
45	2981	4.3	3360	<10	<10
50	2894	4.2			
55	3068	1.7	3760	<10	<10

SB-4

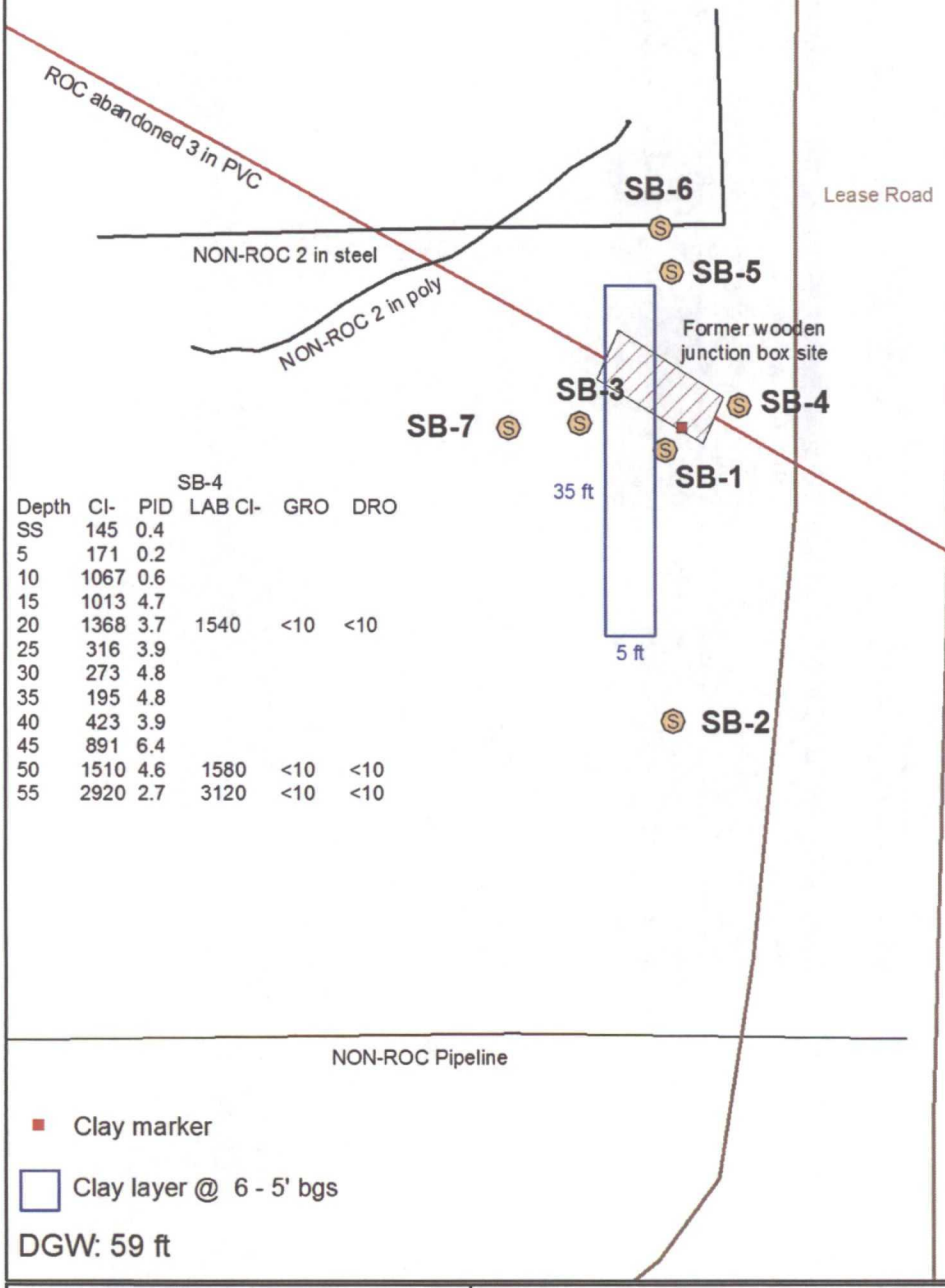
Depth	Cl-	PID	LAB Cl-	GRO	DRO
SS	145	0.4			
5	171	0.2			
10	1067	0.6			
15	1013	4.7			
20	1368	3.7	1540	<10	<10
25	316	3.9			
30	273	4.8			
35	195	4.8			
40	423	3.9			
45	891	6.4			
50	1510	4.6	1580	<10	<10
55	2920	2.7	3120	<10	<10

SB-6

Depth	Cl-	PID	LAB Cl-	GRO	DRO
SS	563	2			
5	673	2.7			
10	1790	3.1			
15	2211	2.1			
20	1245	2.4			
25	540	4.1			
30	282	4			
35	385	3.7			
40	1307	3.3			
45	3295	1.7	4080	<10	28.9
50	2141	1.9			
55	2631	2.5	3240	<10	13

SB-7

Depth	Cl-	PID	LAB Cl-	GRO	DRO
SS	201	1.9			
5	528	2.3			
10	2386	2.6	3360	<10	<10
15	1684	2			
20	1693	1.6			
25	1106	2.6			
30	510	2.5			
35	393	1.6			
40	317	1.7			
45	965	2.7			
50	1095	2.1			
55	3137	2.3	3960	<10	<10



RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

BD jct. C-23-1

LEGALS: UL/C sec. 23 T22S R37E

NMOCD Case #: 1R426-279

Figure 2

N W E S

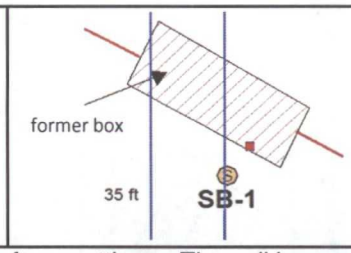
0 5 10 20 Feet

Drawing date: 9-8-11
Drafted by: L. Weinheimer

Appendix A

Soil Bore Installation Logs and Labs

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Logger:	Kyle Norman		RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC
Driller:	Harrison & Cooper, Inc.		
Drilling Method:	Air rotary		**Project Name:** BD jct. C-23-1 **Well ID:** SB-1
Start Date:	9/2/2011		
End Date:	9/2/2011		**Project Consultant:** RECS

Comments: All samples were taken from cuttings. The soil bore was located 3 ft SW of the clay marker.

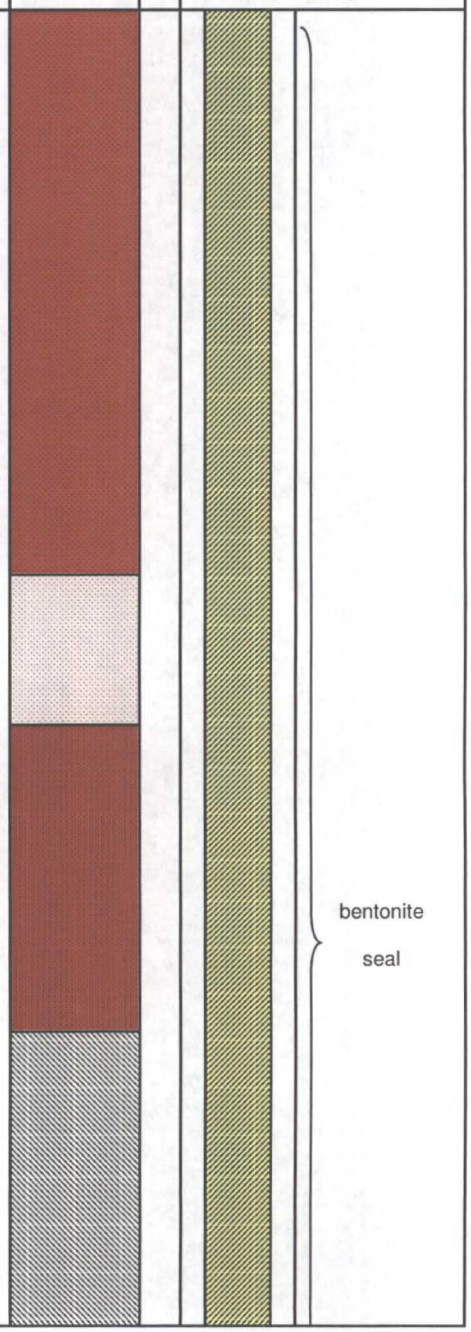
DRAFTED BY: L. Weinheimer

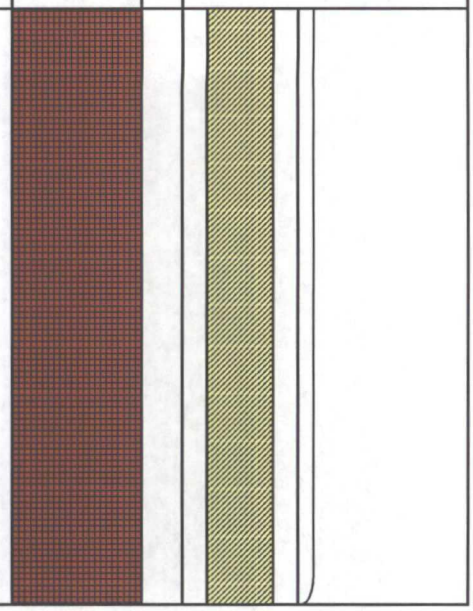
TD = 55 ft GW = 59 ft

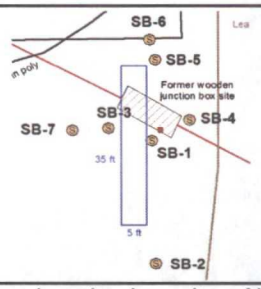
Location: UL/C sec. 23 T22S R37E

Lat: 32°22'51.724"N **Long:** 103°8'10.384"W **County**: Lea **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Red Sand
SS				
5 ft				
10 ft				
15 ft	628		5	
				Tan Sand
20 ft	1103	Cl- 1250	8.5	
		GRO <10		Red Sand With Some Caliche
		DRO <10		
25 ft	619		5.2	
30 ft	343		5.5	
				Tan Fine Sand
35 ft	382		4.8	
40 ft	322		4.8	



Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Red Sandy Clay		
45 ft	409		4.3			
50 ft	1166	Cl- 1630	4.3			
		GRO <10				
		DRO <10				
55 ft	2886	Cl- 4800	3.3			
		GRO <10				
		DRO <10				

Logger:	Kyle Norman		**Project Name:** BD jct. C-23-1 **Well ID:** SB-2
Driller:	Harrison & Cooper, Inc.		**Project Consultant:** RECS
Drilling Method:	Air rotary		
Start Date:	2/1/2012		
End Date:	2/1/2012		

Comments: Located 29 ft south of the former junction box site. All samples were from cuttings.

DRAFTED BY: L. Weinheimer

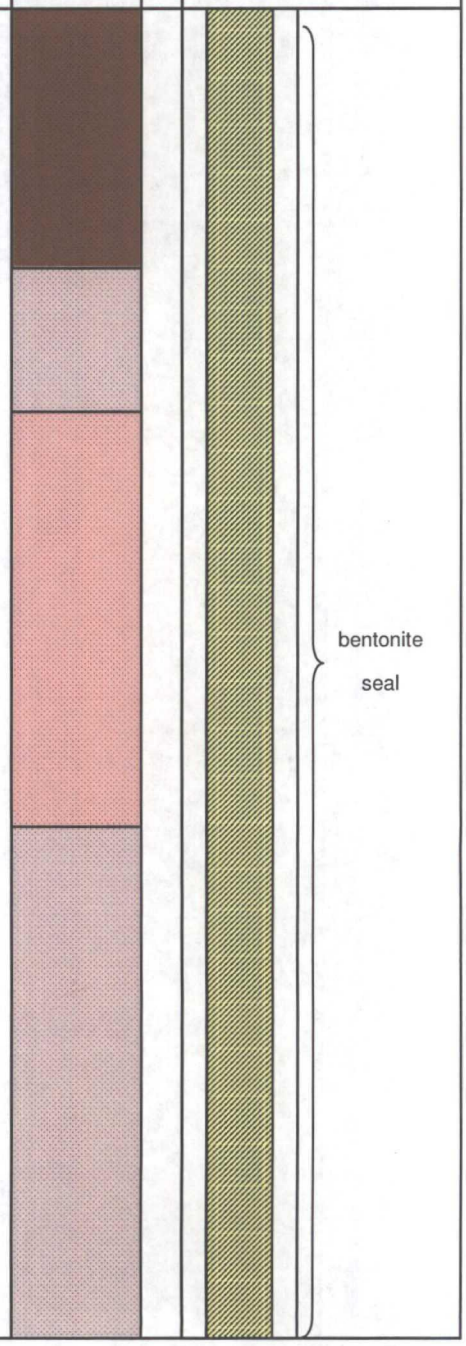
TD = 40 ft GW = 59 ft

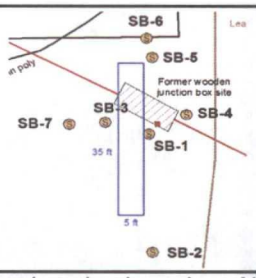
Location: UL/F sec. 23 T22S R37E

Lat: 32°22'51.456"N **Long:** 103°8'10.378"W

County: Lea **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Brown Sand
SS	250		1.4	
5 ft	334		1.7	
				Tan Sand
10 ft	1059	Cl- 960	1.1	
		GRO <10		Red/Tan Sand
		DRO <10		
15 ft	915		1.1	
20 ft	903		1.0	
25 ft	640		1.1	
				Tan Sand
30 ft	193		1.5	
35 ft	149		0.7	
40 ft	140	Cl- 112	0.9	
		GRO <10		
		DRO <10		



Logger:	Kyle Norman		**Project Name:** BD jct. C-23-1 **Well ID:** SB-3
Driller:	Harrison & Cooper, Inc.		**Project Consultant:** RECS
Drilling Method:	Air rotary		
Start Date:	2/1/2012		
End Date:	2/1/2012		

Comments: Located 10 ft west of the former junction box site. All samples were from cuttings.

DRAFTED BY: L. Weinheimer

TD = 55 ft GW = 59 ft

Location: UL/C sec. 23 T22S R37E

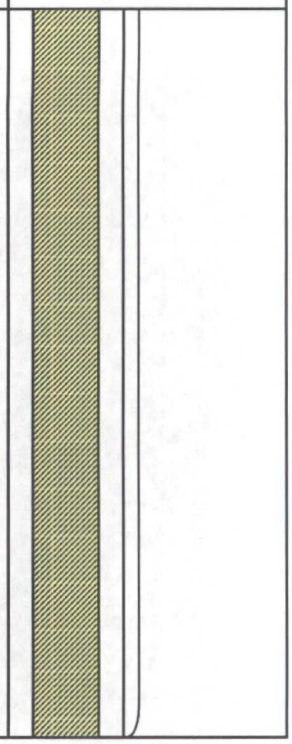
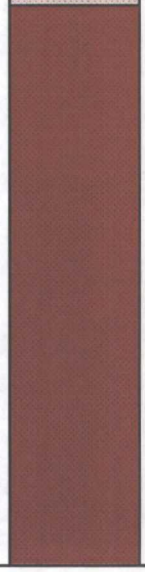
Lat: 32°22'51.751"N **Long:** 103°8'10.488"W

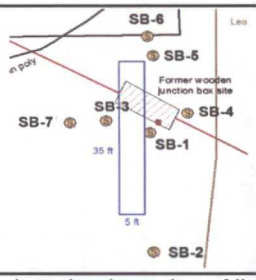
County: Lea **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Brown Sand
SS	113		1.6	
5 ft	138		0.7	
10 ft	236		1.0	
				Red Sand
15 ft	1245		1.5	
				Tan Sand
20 ft	2708	Cl- 3760	1.3	
		GRO <10		
		DRO <10		
25 ft	358		1.4	
30 ft	269		1.7	
35 ft	295		1.5	

Lithology

Well Construction: bentonite seal

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Tan Sand		
40 ft	213		1.6			
				Red Sand		
45 ft	721		1.6			
50 ft	2062		1.4			
55 ft	3010	Cl-1730	2.0			
		GRO <10				
		DRO <10				

Logger:	Kyle Norman		**Project Name:** BD jct. C-23-1 **Well ID:** SB-4
Driller:	Harrison & Cooper, Inc.		**Project Consultant:** RECS
Drilling Method:	Air rotary		
Start Date:	2/1/2012		
End Date:	2/1/2012		

Comments: Located 6 ft east of the former junction box site. All samples were from cuttings.

DRAFTED BY: L. Weinheimer

TD = 55 ft GW = 59 ft

Location: UL/C sec. 23 T22S R37E

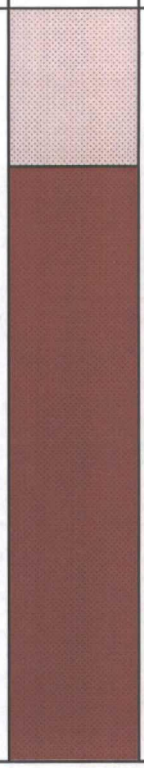
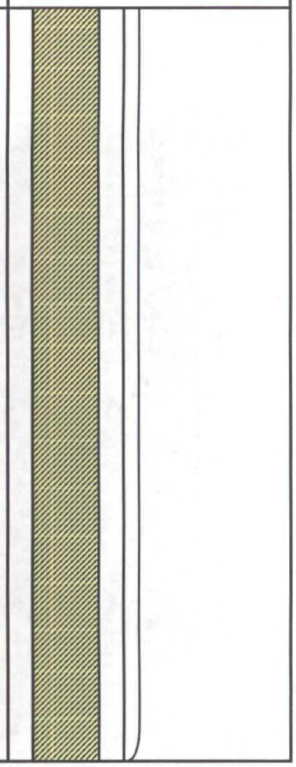
Lat: 32°22'51.766"N **Long:** 103°8'10.297"W

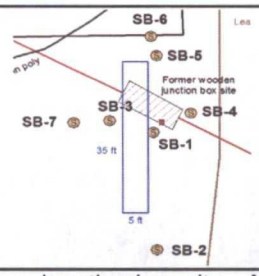
County: Lea **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Brown Sand
SS	145		0.4	
5 ft	171		0.2	
				Tan Sand
10 ft	1067		0.6	
15 ft	1013		4.7	
20 ft	1368	Cl- 1540	3.7	
		GRO <10		
		DRO <10		
25 ft	316		3.9	
30 ft	273		4.8	
35 ft	195		4.8	

Lithology

Well Construction: bentonite seal

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Tan Sand		
40 ft	423		3.9			
				Red Sand		
45 ft	891		6.4			
50 ft	1510	Cl-1580	4.6			
		GRO <10				
		DRO <10				
55 ft	2920	Cl-3120	2.7			
		GRO <10				
		DRO <10				

Logger:	Kyle Norman		RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC
Driller:	Harrison & Cooper, Inc.		**Project Name:** BD jct. C-23-1 **Well ID:** SB-5
Drilling Method:	Air rotary		**Project Consultant:** RECS
Start Date:	2/1/2012		
End Date:	2/1/2012		

Comments: Located 15 ft north of the former junction box site. All samples were from cuttings.

DRAFTED BY: L. Weinheimer

TD = 55 ft GW = 59 ft

Location: UL/C sec. 23 T22S R37E

Lat: 32°22'51.898"N **County**: Lea

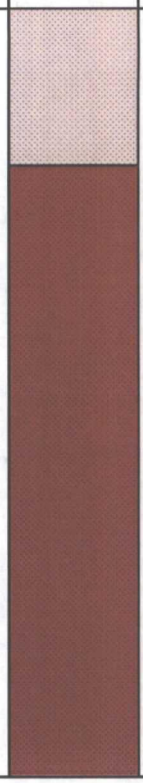
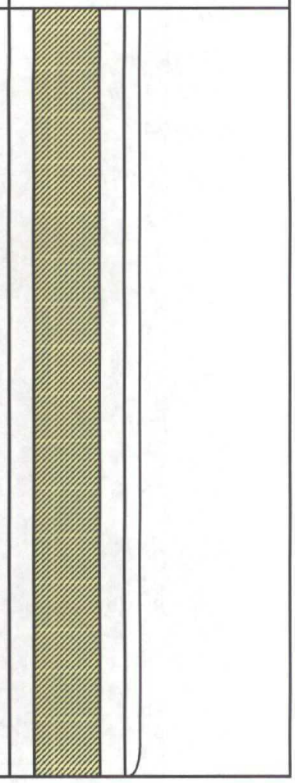
Long: 103°8'10.375"W **State**: NM

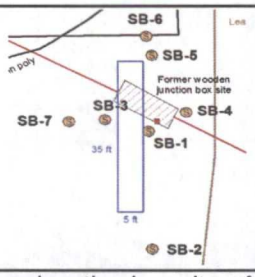
Depth (feet)	Chloride field tests	LAB	PID	Description
				Brown Sand
SS	112		2.6	
5 ft	153		3.7	
				Tan Sand
10 ft	204		3.1	
				Red Sand
15 ft	1136		4.2	
20 ft	923		4.3	
25 ft	815		3.2	
30 ft	345		4.2	
35 ft	352		3.5	

Lithology

Well Construction

bentonite seal

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Tan Sand		
40 ft	1276		4.4			
				Red Sand		
45 ft	2981	Cl- 3360	4.3			
		GRO <10				
		DRO <10				
50 ft	2894		4.2			
55 ft	3068	Cl- 3760	1.7			
		GRO <10				
		DRO <10				

Logger:	Kyle Norman		**Project Name:** BD jct. C-23-1 **Well ID:** SB-6
Driller:	Harrison & Cooper, Inc.		**Project Consultant:** RECS
Drilling Method:	Air rotary		
Start Date:	2/2/2012		
End Date:	2/2/2012		

Comments: Located 20 ft north of the former junction box site. All samples were from cuttings.

DRAFTED BY: L. Weinheimer

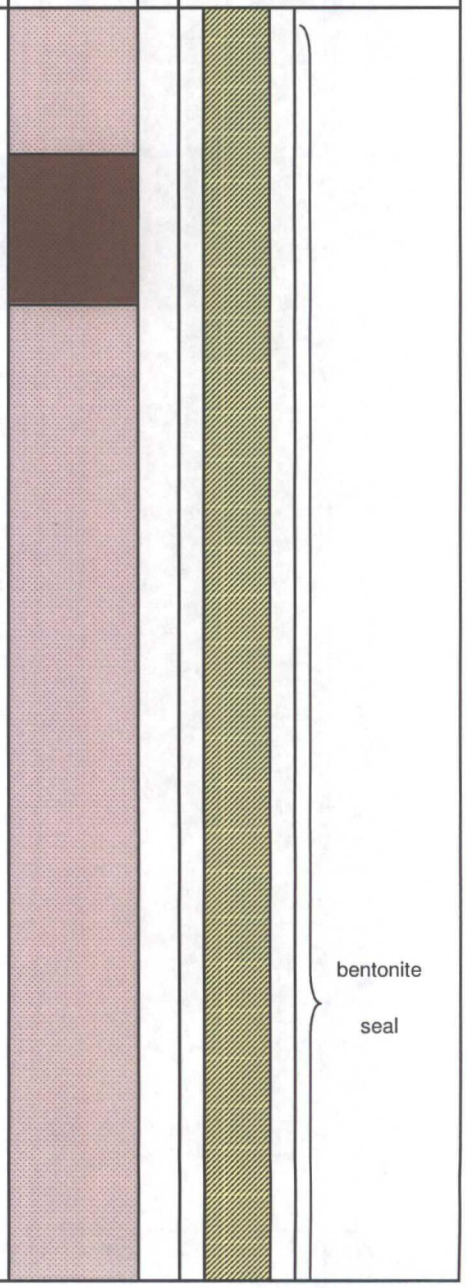
TD = 55 ft GW = 59 ft

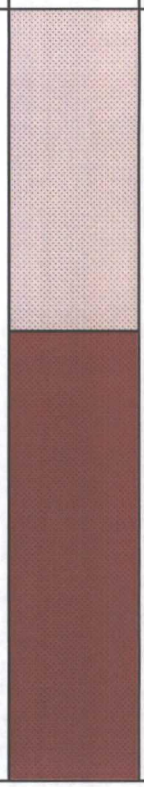
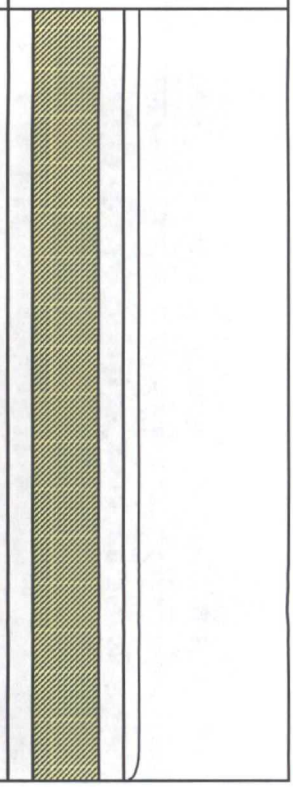
Location: UL/C sec. 23 T22S R37E

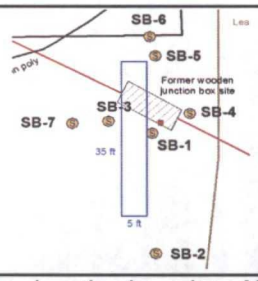
Lat: 32°22'51.941"N **County**: Lea

Long: 103°8'10.388"W **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Tan Sand
SS	563		2	
				Brown Sand
5 ft	673		2.7	
				Tan Sand
10 ft	1790		3.1	
15 ft	2211		2.1	
20 ft	1245		2.4	
25 ft	540		4.1	
30 ft	282		4	
35 ft	385		3.7	



Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Tan Sand		
40 ft	1307		3.3			
45 ft	3295	CI- 4080	1.7			
		GRO <10		Red Sand		
		DRO 28.9				
50 ft	2141		1.9			
55 ft	2631	CI- 3240	2.5			
		GRO <10				
		DRO 13.0				

Logger:	Kyle Norman		**Project Name:** BD jct. C-23-1 **Well ID:** SB-7
Driller:	Harrison & Cooper, Inc.		**Project Consultant:** RECS
Drilling Method:	Air rotary		
Start Date:	2/2/2012		
End Date:	2/2/2012		

Comments: Located 17 ft west of the former junction box site. All samples were from cuttings.

DRAFTED BY: L. Weinheimer

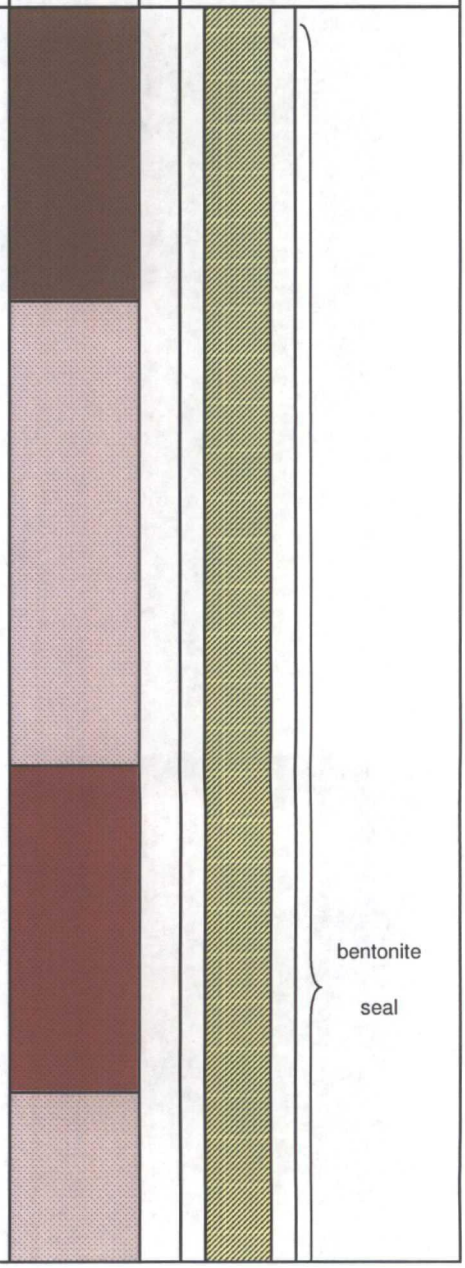
TD = 55 ft GW = 59 ft

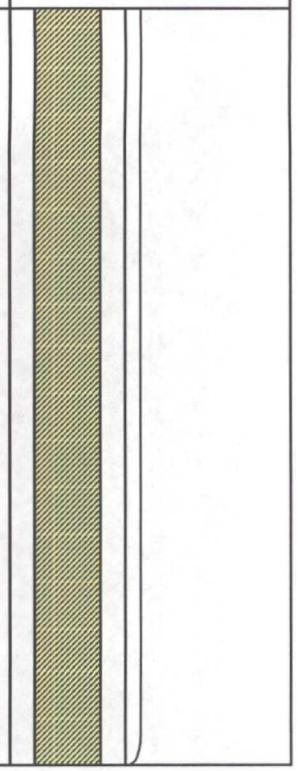
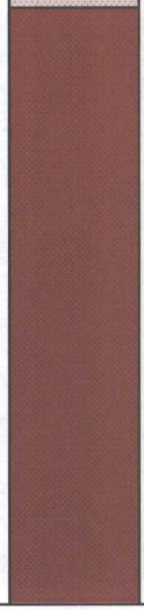
Location: UL/C sec. 23 T22S R37E

Lat: 32°22'51.941"N **County**: Lea

Long: 103°8'10.388"W **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Brown Sand
SS	201		1.9	
5 ft	528		2.3	
				Tan Sand
10 ft	2386	CI- 3360	2.6	
		GRO <10		
		DRO <10		
15 ft	1684		2	
20 ft	1693		1.6	
				Red Sand
25 ft	1106		2.6	
30 ft	510		2.5	
				Tan Sand
35 ft	393		1.6	



Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Tan Sand		
40 ft	317		1.7			
				Red Sand		
45 ft	965		2.7			
50 ft	1095		2.1			
55 ft	3137	Cl- 3960	2.3			
		GRO <10				
		DRO <10				

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 08, 2011

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD C-23-1 JCT (22/37)

Enclosed are the results of analyses for samples received by the laboratory on 09/02/11 15:53.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	09/02/2011	Sampling Date:	09/02/2011
Reported:	09/08/2011	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT (22/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE #1 @ 20' (H101880-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1250**	16.0	09/06/2011	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ab**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/07/2011	ND	160	79.9	200	0.555	
DRO >C10-C28	<10.0	10.0	09/07/2011	ND	157	78.3	200	2.57	

Surrogate: 1-Chlorooctane	*105 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*108 %*	*57.6-158*

Sample ID: SOIL BORE #1 @ 50' (H101880-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1630**	16.0	09/06/2011	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ab**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/07/2011	ND	160	79.9	200	0.555	
DRO >C10-C28	<10.0	10.0	09/07/2011	ND	157	78.3	200	2.57	

Surrogate: 1-Chlorooctane	*101 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*103 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	09/02/2011	Sampling Date:	09/02/2011
Reported:	09/08/2011	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT (22/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE #1 @ 55' (H101880-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4800**	16.0	09/06/2011	ND	416	104	400	3.77	

TPH 8015M **mg/kg** **Analyzed By: ab**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/07/2011	ND	169	84.5	200	1.21	
DRO >C10-C28	<10.0	10.0	09/07/2011	ND	171	85.3	200	0.811	

Surrogate: 1-Chlorooctane	*111 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*116 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name: ~~REC~~ Rice	Jk 9/8/11	BILL TO	ANALYSIS REQUEST
Project Manager: Hack Conder		P.O. #:	
Address:		Company:	
City: Hobbs	State: NM Zip: 88240	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location: BD C-23-1 Jct 22-37		Phone #:	
Sampler Name: Kyle Norman		Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
H101880																				
-1	Soil Bore #1 @ 20'	G	1			✓					✓		9-2-11	2:50	✓	✓				
-2	Soil Bore #1 @ 50'	G	1			✓					✓		9-2-11	3:00	✓	✓				
3	Soil Bore #1 @ 55'	G	1			✓					✓		9-2-11	3:15	✓	✓				

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 9-2-11	Received By: Jodi Henson	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 5:53		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results Knorman@rice-ecs.com Kjones@riceswd.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com zconder@rice-ecs.com
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#26

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

February 03, 2012

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD C-23-1 JCT (22/37)

Enclosed are the results of analyses for samples received by the laboratory on 02/01/12 16:47.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	02/01/2012	Sampling Date:	02/01/2012
Reported:	02/03/2012	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT (22/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 @ 10' (H200253-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**960**	16.0	02/02/2012	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*73.9 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*77.0 %*	*57.6-158*

Sample ID: SB 2 @ 40' (H200253-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	02/03/2012	ND	464	116	400	10.9	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*90.4 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*106 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	02/01/2012	Sampling Date:	02/01/2012
Reported:	02/03/2012	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT (22/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 3 @ 20' (H200253-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3760**	16.0	02/03/2012	ND	464	116	400	10.9	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*104 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*120 %*	*57.6-158*

Sample ID: SB 3 @ 55' (H200253-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1730**	16.0	02/03/2012	ND	464	116	400	10.9	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*97.3 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*96.5 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	02/01/2012	Sampling Date:	02/01/2012
Reported:	02/03/2012	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT (22/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 4 @ 20' (H200253-05)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1540**	16.0	02/03/2012	ND	464	116	400	10.9	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*83.1 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*107 %*	*57.6-158*

Sample ID: SB 4 @ 50' (H200253-06)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1580**	16.0	02/03/2012	ND	464	116	400	10.9	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*92.2 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*112 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	02/01/2012	Sampling Date:	02/01/2012
Reported:	02/03/2012	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT (22/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 4 @ 55' (H200253-07)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3120**	16.0	02/03/2012	ND	464	116	400	10.9	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*105 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*130 %*	*57.6-158*

Sample ID: SB 5 @ 45' (H200253-08)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3360**	16.0	02/03/2012	ND	464	116	400	10.9	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*101 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*119 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	02/01/2012	Sampling Date:	02/01/2012
Reported:	02/03/2012	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT (22/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 5 @ 55' (H200253-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3760**	16.0	02/03/2012	ND	464	116	400	10.9	

TPH 8015M **mg/kg** **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2012	ND	192	96.0	200	5.21	
DRO >C10-C28	<10.0	10.0	02/03/2012	ND	221	111	200	5.39	

Surrogate: 1-Chlorooctane	*104 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*112 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name: Rice	BILL TO
Project Manager: Jack Conder	P.O. #:
Address:	Company:
City: State: NM Zip:	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: BD C-23-1 SCT 22S-37E	Phone #:
Sampler Name: Kyle Norman	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
H200253																				
1	SB2 @ 10'	G	1			✓					✓		2-1-12	11:00	✓	✓				
2	SB2 @ [redacted]40'	G	1			✓					✓		2-1-12	11:30	✓	✓				
3	SB3 @ 20'	G	1			✓					✓		2-1-12	1:00	✓	✓				
4	SB3 @ 55'	G	1			✓					✓		2-1-12	1:15	✓	✓				
5	SB 4 @ 20'	G	1			✓					✓		2-1-12	1:45	✓	✓				
6	SB4 @ 50'	G	1			✓					✓		2-1-12	2:00	✓	✓				
7	SB4 @ 55'	G	1			✓					✓		2-1-12	2:15	✓	✓				
8	SB5 @ 45'	G	1			✓					✓		2-1-12	3:45	✓	✓				
9	SB5 @ 55'	G	1			✓					✓		2-1-12	4:15	✓	✓				

Relinquished By:	Date: 2-1-12	Received By: Jodi Henson	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 4:47		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results kjones@riceswd.com; knorman@rice-ecs.com; Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus. - Other:	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#26

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

March 07, 2012

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD C-23-1 JCT 22S-37E

Enclosed are the results of analyses for samples received by the laboratory on 02/02/12 15:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	02/02/2012	Sampling Date:	02/02/2012
Reported:	03/07/2012	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT 22S-37E	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 6 @ 45' (H200261-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4080**	16.0	02/06/2012	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/06/2012	ND	168	84.0	200	2.09	
DRO >C10-C28	**28.9**	10.0	02/06/2012	ND	204	102	200	4.41	

Surrogate: 1-Chlorooctane	*99.2 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*151 %*	*57.6-158*

Sample ID: SB 6 @ 55' (H200261-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3240**	16.0	02/06/2012	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/06/2012	ND	168	84.0	200	2.09	
DRO >C10-C28	**13.0**	10.0	02/06/2012	ND	204	102	200	4.41	

Surrogate: 1-Chlorooctane	*105 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*154 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	02/02/2012	Sampling Date:	02/02/2012
Reported:	03/07/2012	Sampling Type:	Soil
Project Name:	BD C-23-1 JCT 22S-37E	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 7 @ 10' (H200261-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3360**	16.0	02/06/2012	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/07/2012	ND	171	85.3	200	1.93	
DRO >C10-C28	<10.0	10.0	02/07/2012	ND	200	99.9	200	13.1	

Surrogate: 1-Chlorooctane	*88.9 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*99.8 %*	*57.6-158*

Sample ID: SB 7 @ 55' (H200261-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3960**	16.0	02/06/2012	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/07/2012	ND	171	85.3	200	1.93	
DRO >C10-C28	<10.0	10.0	02/07/2012	ND	200	99.9	200	13.1	

Surrogate: 1-Chlorooctane	*78.4 %*	*55.5-154*
Surrogate: 1-Chlorooctadecane	*92.1 %*	*57.6-158*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name: Rice	**BILL TO** P.O. #:
Project Manager: Hack Conder	Company:
Address:	Attn:
City: State: NM Zip:	Address:
Phone #: Fax #:	City:
Project #: Project Owner:	State: Zip:
Project Name:	Phone #:
Project Location: BD C-231 Sec 22 S-37E	Fax #:
Sampler Name: Kyle Norman	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
H200261																				
1	SB 6 @ 45'	G	1			✓					✓		2-2-12	10:30	✓	✓				
2	SB 6 @ 55'	G	1			✓					✓		2-2-12	11:00	✓	✓				
3	SB 7 @ 10'	G	1			✓					✓		2-2-12	11:15	✓	✓				
4	SB 7 @ 10'	G	1			✓					✓		2-2-12	11:30	✓	✓				

Relinquished By:	Date: 2-2-12	Received By:	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 3:55		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results kjones@riceswd.com; knorman@rice-ecs.com; Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☐ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

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